



Beyond Lechmere Northwest Corridor Project

Phase 1: Major Investment Study

Existing Conditions Overview

July, 2004

Overview of Existing Conditions

- Description of Study Area
- Traffic/Roadways
- Congestion Management
- Transit Services

Demographics

Municipality

<u>Category</u>	<u>Cambridge</u>	<u>Somerville</u>	<u>Medford</u>	<u>Boston</u>
Population*	101,500	77,500	55,750	589,000
Employment**	113,500	23,000	19,000	578,500
Resident to Job Ratio	0.89	3.37	2.93	1.02
Percent of Residents who Work in Same City of Residence*	46 %	16 %	17 %	66 %
Percent of Residents who Work in Boston*	27 %	28 %	25 %	66 %
Percent of Residents who Work in the All Selected Cities*	76 %	64 %	57 %	73 %

Sources:

* Data from 2000 Census Minor Civil Division (MCD) Data

** Data from the Mass Division of Employment and Training (DET) for 2001

*** Data from 1990 Census Transportation Planning Package (CTPP) Data

Travel Behavior

Municipality

Category

Cambridge

Somerville

Medford

Boston

Mode to Work for Residents*

Automobile	41 %	56 %	75 %	51 %
Public Transit	25 %	29 %	18 %	32 %
Walk/Bike/Other	29 %	13 %	5 %	15 %
<u>Work at Home</u>	<u>5 %</u>	<u>2 %</u>	<u>2 %</u>	<u>2 %</u>
Total	100 %	100 %	100 %	100 %

Mode to Work for Employees***

Automobile	63 %	73 %	83 %	56 %
Public Transit	21 %	11 %	8 %	34 %
Walk/Bike/Other	14 %	12 %	9 %	9 %
<u>Work at Home</u>	<u>2 %</u>	<u>4 %</u>	<u>3 %</u>	<u>1 %</u>
Total	100 %	100 %	100 %	100 %

Sources:

* Data from 2000 Census Minor Civil Division (MCD) Data

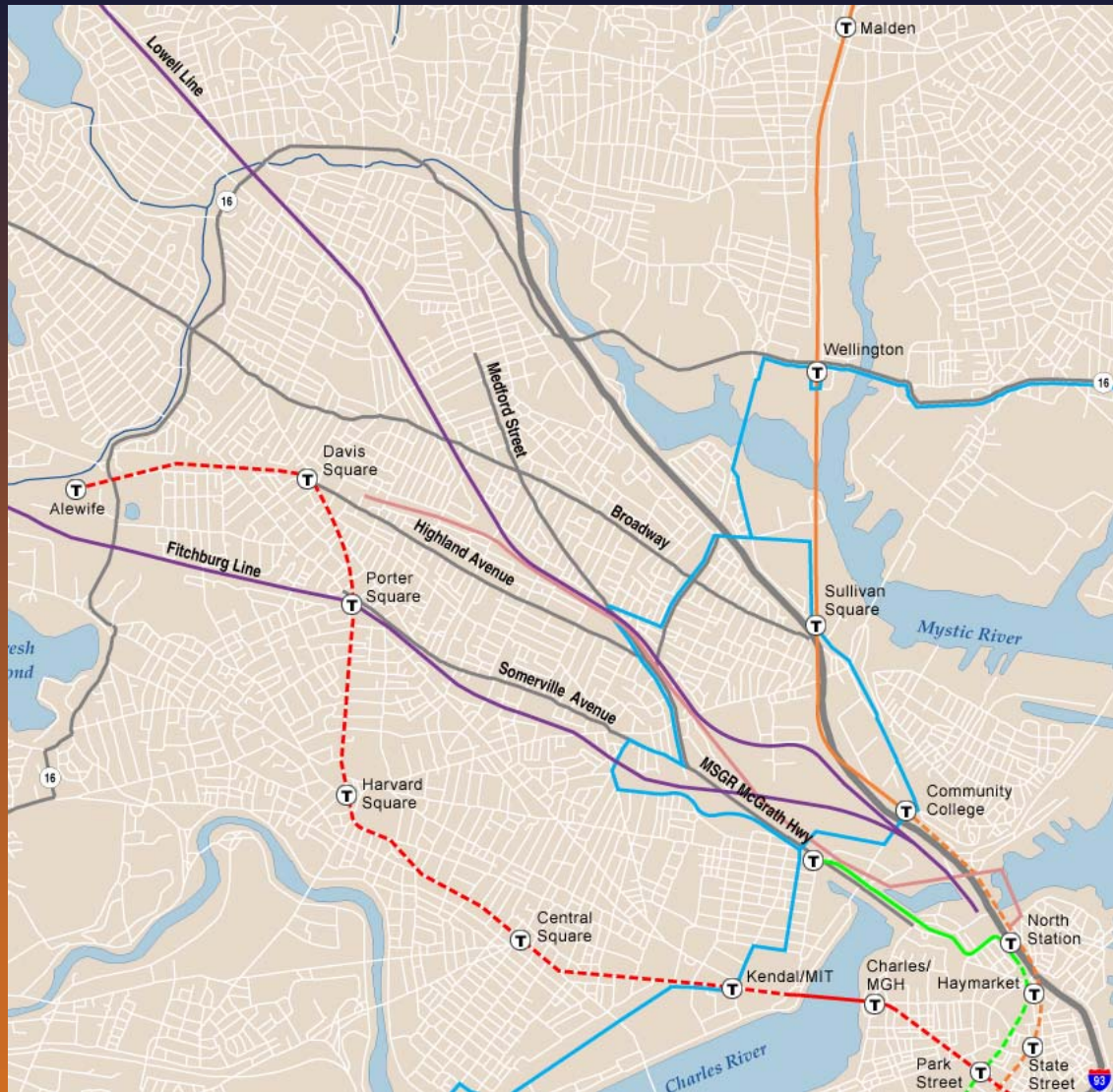
** Data from the Mass Division of Employment and Training (DET) for 2001

*** Data from 1990 Census Transportation Planning Package (CTPP) Data

Roadway/Arterials/Interstates

Corridor	Description	General Direction	Average Vehicle Volumes/Day	Average Accidents/Year	Notes
I-93	Interstate highway	Northwest-Southeast	150,000	125	Access at Assembly Sq. and Sullivan Sq.
Route 28/ McGrath-O'Brien Highway	Multilane arterial	Northeast-Southwest	40,000	170	Links Medford, Winter Hill, East Somerville, East Cambridge, Assembly Sq.
Route 38/ Mystic Avenue	Four-lane arterial	Northwest-Southeast	35,000	205	Links to I-93; Access to commercial areas in Somerville and Medford
Broadway	Four-lane arterial	Northwest-Southeast	20,000 – 30,000	195	Links Powderhouse Sq. to Sullivan Sq. via Winter Hill
Washington Street	Two-lane arterial	East-West	High volumes	120	Links Union Sq. to Sullivan Sq.
Medford Street	Two-lane arterial	North-South	21,000	80	Links Medford Sq. to Lechmere
Highland Avenue	Two-lane roadway	East-West	Moderate volumes	90	Links Davis Sq. to Route 28
Somerville Avenue	Two-lane roadway	East-West	Moderate volumes	140	Links Porter Sq. and Union Sq.
Elm Street	Two-lane arterial	Northwest-Southeast	Moderate volumes	40	Links Davis Sq., east of Porter Sq., and Union Sq. via Somerville Avenue
College Avenue	Two-lane arterial	Southwest-Northeast	11,000	40	Links Davis Sq. to Powderhouse Sq., Tufts University and Medford Hillside
Boston Street	Two-lane roadway	Northwest-Southeast	11,000-18,000	20	Links West Medford, Tufts University, Ball Sq.
Curtis Street/ Winthrop Street	Two-lane roadway	North-South	8,000-10,000	15	Links Teele Sq. to West Medford

Transit Services



Subway Ridership/Capacity

Subway Lines	2004		
	Green	Orange	Red
Daily Ridership	225,200	160,900	214,200
A.M. Peak hour Load Volumes	7,300	8,200	9,500
Peak-hour Capacity	9,180	7,860	13,026
Volume as a % of Capacity	80%	104%	73%

AM Peak Load Points:

Green Line (Arlington to Copley)

Orange Line (North Station to Haymarket)

Red Line (South Station to Andrew)

Source: www.mbta.com, 2004

Subway Schedules

Source: www.mbt.com 2004

	First Trip	Rush Hour Service	Midday Service	Evening Service	Late Night Service	Last Trip
RED LINE						
LV ALEWIFE	5:24AM	9 MINS.	13 MINS.	12 MINS.	14 MINS.	12:15AM
LV BRAINTREE	5:15AM	9 MINS.	13 MINS.	12 MINS.	14 MINS.	12:18AM
LV ALEWIFE	5:16AM	9 MINS.	13 MINS.	12 MINS.	14 MINS.	12:22AM
LV ASHMONT	5:16AM	9 MINS.	13 MINS.	12 MINS.	14 MINS.	12:30AM
M LV ASHMONT	5:17AM	6 MINS.	10 MINS.	12 MINS.	12 MINS.	1:05AM
LV MATTAPAN	5:05AM	6 MINS.	10 MINS.	12 MINS.	12 MINS.	12:53AM
ORANGE LINE						
LV OAK GROVE	5:16AM	6 MINS.	9 MINS.	12 MINS.	15 MINS.	12:21AM
LV FOREST HILLS	5:16AM	6 MINS.	9 MINS.	12 MINS.	15 MINS.	12:22AM
GREEN LINE						
"B" LV BOSTON COLLEGE	5:01AM	5 MINS.	9 MINS.	10 MINS.	10 MINS.	12:00AM
LV NORTH STATION	5:46AM	5 MINS.	9 MINS.	10 MINS.	10 MINS.	12:40AM
"C" LV CLEVELAND CIR.	5:01AM	6 MINS.	6 MINS.	10 MINS.	10 MINS.	12:10AM
LV GOV'T CENTER	5:30AM	6 MINS.	6 MINS.	10 MINS.	10 MINS.	12:40AM
"D" LV RIVERSIDE	4:56AM	5 MINS.	10 MINS.	10 MINS.	10 MINS.	12:05AM
LV GOV'T CENTER	5:32AM	5 MINS.	10 MINS.	10 MINS.	10 MINS.	12:45AM
"E" LV NORTH STATION	5:05AM	7 MINS.	9 MINS.	10 MINS.	10 MINS.	12:30AM
LV HEATH STREET	5:30AM	7 MINS.	9 MINS.	10 MINS.	10 MINS.	12:45AM

Study Area Subway Station

Daily Boardings

Green

Lechmere	5,421
Science Park	1,360

Green and Orange

North Station	13,218
Haymarket	8,627

Orange

Wellington	7,078
Sullivan Square	8,667
Community College	3,663

Red

Davis	10,695
Kendall	12,214
Porter	7,355

Source: MBTA 1997 Counts

Commuter Rail Ridership/Capacity



	<u>Lowell Line</u>	<u>Fitchburg Line</u>
Daily Ridership	10,000	8,000
Greatest ridership on an A.M. train	795	563
Train Capacity*	825	825
% Utilization	96%	68%
	train #308	train #206

*110% of seated capacity

Source: MBCR 12/03 Counts

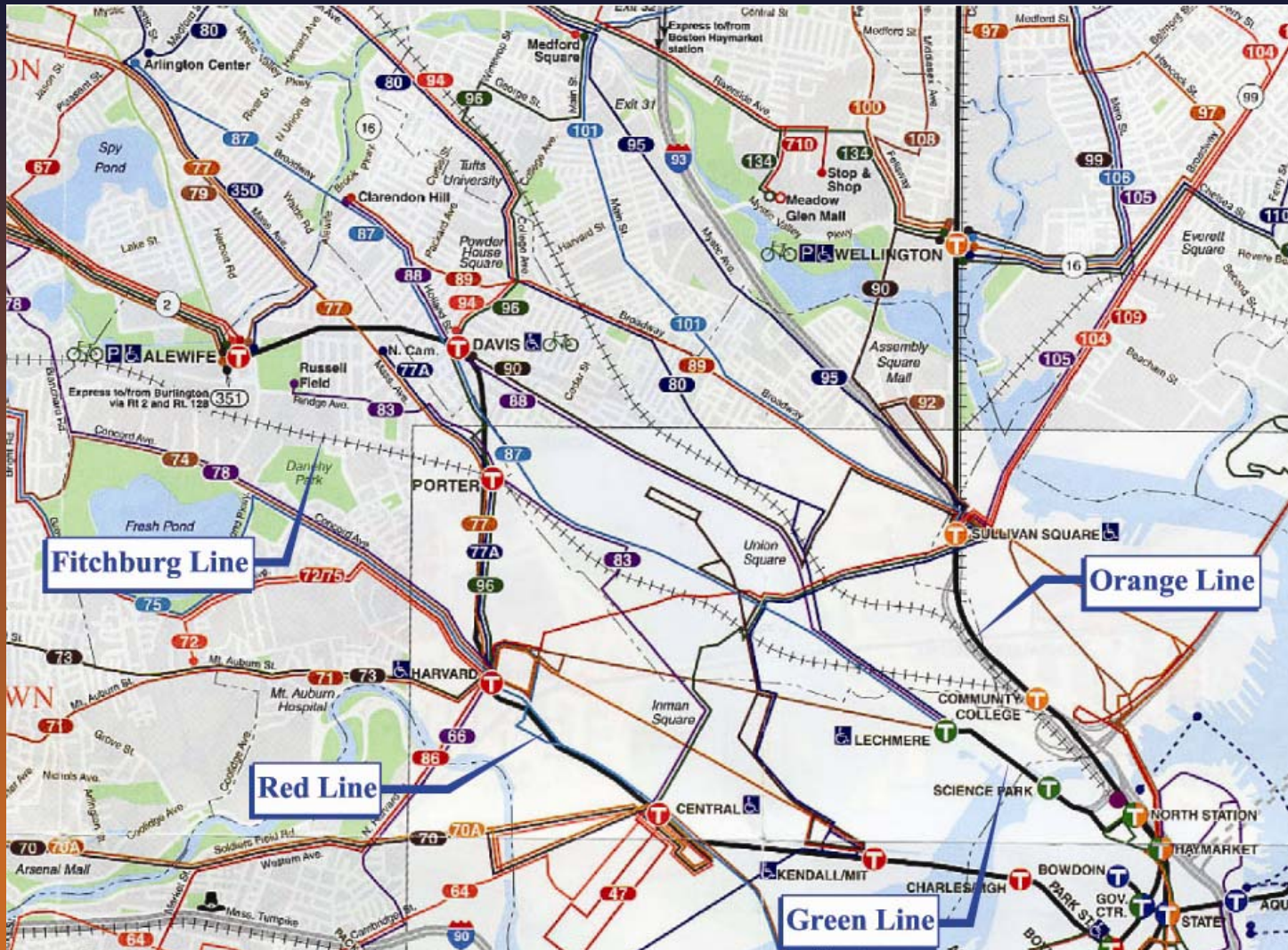
Study Area Commuter Rail Stations

Number of Weekday Trains Inbound to North Station

Arriving/ Departing Station:	Travel Time to North Station	Daily Board- ings	5AM- 9:30AM	9:30AM- 4PM	4PM - 7PM	After 7PM	Total No. of Trains
West Medford (Lowell Line)	12 to 14 min.	478	6	7	4	4	21
Porter (Fitchburg Line)	11 min.	143	6	4	3	5	18

Source: MBCR 2003

Transit Services – Bus



Bus Routes and Ridership

<u>Route</u>	<u>Description</u>	<u>Daily Ridership</u>
No. 80	Arlington Center – Lechmere Station via Medford Hillside	2,095
No. 85	Spring Hill – Kendall/MIT	402
No. 86	Sullivan Sq. Sta. – Cleveland Circle via Harvard/Johnston Gate	5,139
No. 87	Arlington Center or Clarendon Hill - Lechmere Station via Somerville Ave.	3,720
No. 88	Clarendon Hill – Lechmere Station via Highland Avenue	4,299
No. 89	Clarendon Hill – Sullivan Sq. Sta. via Broadway	3,586
No. 90	Davis Square – Wellington Station via Sullivan Square Station & Assembly Mall	1,280
No. 91	Sullivan Sq. Sta. – Central Sq., Cambridge via Washington St.	1,482
No. 94	Medford Square – Davis Sq. Station via W. Medford & Medford Hillside	1,343
No. 96	Medford Square – Harvard Station via George Street & Davis Sq. Station	1,458
No. 101	Malden Center Station – Sullivan Sq. Station via Salem St., Main St. & Broadway	4,323
No. CT2	Sullivan Station – Ruggles Station via Kendall/MIT	1,192

Bus Route Frequencies

Number of Weekday Inbound Bus Trips

<u>Route</u>	<u>Daily Ridership</u>	<u>5AM - 9:30AM</u>	<u>9:30AM- 4PM</u>	<u>4PM- 7 PM</u>	<u>After 7PM</u>	<u>Total No. of Trips</u>
No. 80	2,095	13	13	8	7	41
No. 85	402	7	9	4	0	2-
No. 86	5,139	17	18	8	7	50
No. 87	3,720	14	15	11	11	51
No. 88	4,299	18	16	11	12	57
No. 89	3,586	21	17	6	9	53
No. 90	1,280	5	9	5	4	23
No. 91	1,482	11	15	6	6	38
No. 94	1,343	11	9	9	10	39
No. 96	1,458	12	10	9	10	41
No. 101	4,323	21	14	13	7	55
No. CT2	1,192	9	13	9	0	31

Utilization of “The Ride” by Study Area Communities



<u>Community</u>	<u>Number of Trips</u>	<u>Percentage of Total</u>
Boston	278,687	26.4%
Cambridge	18,800	1.8%
Somerville	19,380	1.8%
Medford	14,429	1.4%
<i>Systemwide Total</i>	<i>1,055,815</i>	<i>100%</i>

Source: MBTA, 2000